



TESTIMONY

ON

**THE BUREAU OF RECLAMATION'S 21ST CENTURY CHALLENGES IN
MANAGING, PROTECTING AND DEVELOPING WATER AND POWER
SUPPLIES**

**PRESENTED BEFORE
COMMITTEE ON RESOURCES
SUBCOMMITTEE ON WATER AND POWER
UNITED STATES HOUSE OF REPRESENTATIVES**

PRESENTED BY

**G. WADE MILLER
EXECUTIVE DIRECTOR**

**ON BEHALF OF THE
WATEREUSE ASSOCIATION**

April 5, 2006

Mr. Chairman and Members of the Subcommittee, I am Wade Miller, the Executive Director of the Water Reuse Association (WateReuse). I appreciate the opportunity to testify before the Subcommittee to provide our association's perspective on the organizational and management challenges facing the Bureau of Reclamation in the 21st Century. At the request of the Subcommittee, our testimony will provide specific comments on the report prepared by the National Research Council (NRC) entitled *Managing Construction and Infrastructure in the 21st Century Bureau of Reclamation*. (NRC report).

First, let me provide you with some background on my professional experience and qualifications related to management assessments. For the past six years, I have served as Executive Director of both the WateReuse Association and the WateReuse Foundation. The WateReuse Foundation's research program, which has an annual budget of approximately \$5 million, is a cost-shared partnership with the Bureau of Reclamation. This cost-shared partnership has afforded me the opportunity to work closely with the Bureau staff over the past several years. I have also worked closely with the Bureau on its Title XVI water reuse grants program and collaborated with Bureau management on the development and implementation of the *Desalination and Water Purification Technologies Roadmap*.

Prior to my tenure at WateReuse, I owned a management consulting firm which specialized in conducting management audits of large investor owned utilities, supporting the Environmental Protection Agency by performing economic impact assessments and other analyses related to regulatory development, and engaging in strategic planning for organizations in the public and private sector.

About the WateReuse Association

The WateReuse Association (WateReuse) is a non-profit organization whose mission is to advance the beneficial and efficient use of water resources through education, sound science, and technology using reclamation, recycling, reuse, and desalination for the benefit of our members, the public, and the environment. Across the United States and the world, communities are facing water supply challenges due to increasing demand, drought, and dependence on a single source

of supply. WateReuse addresses these challenges by working with local agencies to implement water reuse and desalination projects that resolve water resource issues and create value for communities. The vision of WateReuse is to be the leading voice for reclamation, recycling, reuse, and desalination in the development and utilization of new sources of high quality water. The Association's membership is growing rapidly as more communities around the nation recognize the need to reuse water and develop alternative supplies. WateReuse now has more than 325 organizational members nationwide, including more than 150 local water and wastewater agencies.

WateReuse assists its members in implementing projects that solve these water supply challenges for local communities by:

- sponsoring research that advances the science of water reuse and focuses on the Association's commitment to providing high-quality water, protecting public health, and improving the environment;
- reaching out to members, the public, and local leaders and officials with information that communicates the value and benefits of water reuse; and
- encouraging additional Federal support for water reuse and desalination, including funding for research and local projects.

WateReuse members use advanced treatment processes and monitoring to produce water of sufficient quality for the intended purpose from treated municipal and industrial effluent, storm water, agricultural drainage, and sources with high salinity such as seawater and brackish water. Each of our utility members has highly qualified technical and engineering staffs, but also utilize consulting engineers and other water experts extensively for their water infrastructure projects. All of these public agencies are going through similar organizational challenges that have been identified in the NRC report on the management challenges that confront the Bureau of Reclamation.

Before commenting on the NRC report, I would like to discuss briefly two successful efforts that WateReuse has undertaken with the Bureau. As I noted earlier, the Association has developed a successful cost-shared research program with the U.S. Bureau of Reclamation (USBR) and other organizations through its research arm, the WateReuse Foundation. The Foundation is engaged

in conducting “leading edge” applied research on important and timely issues, including: 1) evaluating methods for managing salinity, such as researching alternatives for the disposal of concentrates from membrane treatment systems; 2) working cooperatively with USBR, Sandia National Laboratories, and the Awwa Research Foundation through the Joint Water Reuse & Desalination Task Force (JWR&DTF) to implement the *Desalination and Water Purification Technologies Roadmap* developed in 2003 by Sandia and USBR; 3) evaluating ways to advance public acceptance of indirect potable reuse; 4) understanding the occurrence and fate of emerging contaminants, such as endocrine disrupting compounds, in conventional and advanced water recycling systems; and 5) gaining a better understanding of water quality changes that might occur in aquifer storage and recovery (ASR).

The WaterReuse Foundation currently has a water reuse and desalination research portfolio consisting of more than 61 active projects with a value of more than \$10 million. Approximately 50% of the Foundation's research funding comes from the federal government, with the funding provided by the Congress and administered by the Bureau. The Foundation has been able to leverage its federal support by a factor of more than 3:1. We believe this leveraging, featuring funding from state agencies in California and Florida, other research foundations, and local water/wastewater agencies, provides compelling evidence that the Foundation’s research program enjoys the support of stakeholders. We have been able to work closely with the Bureau to develop a program that clearly enjoys the support of the end user of the research. The “bottom line” is that the Bureau, under this cost-shared partnership with the Foundation, is able to deliver meaningful research to its stakeholders in a cost-effective, expeditious manner.

In 2002, the Bureau and Sandia National Laboratories were directed by the Congress to develop a “roadmap” entitled the *Desalination and Water Purification Technologies Roadmap*. The purpose of the *Roadmap* was to identify and delineate the research that would be needed over the next 25 years to allow desalination, water reuse, and other alternative water supplies to become viable mainstream sources of supply in the 21st century. According to the *Roadmap*, “by 2020, desalination and water purification technologies will contribute significantly to ensuring a safe, sustainable, affordable, and adequate water supply for the United States.” For this to happen, however, a substantial research investment will be needed to find a way to reduce the capital and

operating costs. The WaterReuse Foundation is working collaboratively with the Bureau of Reclamation, Sandia National Laboratories, and the Awwa Research Foundation to conduct research on innovative, cost-effective methods of concentrate disposal and sponsoring research on membrane technologies and alternative technologies. We believe this “industry consortium” represents a successful model for future research. The research performed by this consortium, called the Joint Water Reuse & Desalination Task Force, yields several significant benefits for each participating organization, including the Bureau: 1) leveraging of research dollars; 2) leveraging of human capital by accessing and utilizing the scientific and technical capabilities in other organizations such as Sandia National Laboratories; and 3) a reduction or elimination of duplication of research efforts.

We believe this research model is more cost-effective and will yield greater benefits than a centralized internal research paradigm at the Bureau. The latter approach would likely be more expensive and runs the risk of being less relevant to the applied research needs of the water and wastewater utilities in the western U.S.

Specific Comments on “Managing Construction and Infrastructure in the 21st Century Bureau of Reclamation”

Perhaps the most important theme that we find in the NRC study is the importance of identifying new models to address the multiple demands being imposed on the Bureau during times of scarce Federal financial resources. We would suggest to the Subcommittee that the mission of the Bureau has changed from its original mission of providing water and power that would facilitate the development of the West to addressing those water problems and issues that have arisen due to the outstanding manner in which the Bureau accomplished its original mission. The new 21st century mission involves addressing water scarcity for humans, protecting the environment, balancing water demands from the municipal, industrial, and agricultural communities, managing the infrastructure assets that have been developed at great cost, and providing security for water and power assets. The new mission also involves the fulfillment of international treaty obligations, promoting coordination with other federal agencies that deal with water issues, and assisting rural communities with water supplies. All of these issues call for a

new business model that takes into account the complexities of the various elements of this new mission.

We agree strongly with the NRC report findings that the Bureau of Reclamation's mission is evolving and that additional emphasis needs to be placed on water conservation, recycling and reuse, and desalination technologies. We further agree that these goals can only be accomplished effectively through partnerships with the Bureau's customers and stakeholders throughout the West. Developing a management model that would utilize the technical and engineering expertise of the Bureau's customers and partners would be key elements of an effective strategy to ensure cost-effective program implementation.

The NRC report singles out as perhaps the largest challenge for the Bureau the maintenance and restoration of the capacity of its existing infrastructure. We believe that this is important to our nation's ability to mitigate the impacts of periodic droughts as well as to provide water to satisfy the demands resulting from rapid growth in the West. Clearly, there needs to be a way to maintain a focus on this need while not neglecting the demands of the future. An operating model worthy of consideration would be for the Bureau to focus the majority of its resources on the substantial backlog of infrastructure needs while allowing future water supply needs to be addressed through the active participation of local agencies, such as occurs currently through the highly successful Title XVI water reuse program.

While the NRC report and the Bureau's Action Plan (*Managing for Excellence*) did not address this issue directly, we believe it is important that the Bureau consider its administrative costs and overhead of programs such as Title XVI. For example, during the past 2-3 fiscal years, the Bureau has withheld a fairly large percentage of the dollars granted to project sponsors under the Title XVI program. By comparison, the State of California's Water Bond Programs administered by the California Department of Water Resources and State Water Resources Control Board (SWRCB) have grant administrative costs which appear to be much lower. We recommend that the Bureau "benchmark" and compare its administrative and overhead costs with other comparable federal agencies (e.g., EPA, Army Corps of Engineers) with similar grant

administrative programs and also with State agencies such as the water reuse and desalination grant programs (e.g., Proposition 13, Proposition 50) administered by the State of California.

Consideration should be given to using the Bureau's expertise to provide technical assistance to those stakeholders that would like to avail themselves of the Bureau's engineering capabilities. These capabilities and expertise would be especially valuable for smaller communities. Larger and medium sized organizations probably do not need such assistance; in larger urban settings, the Bureau should play the role it usually plays which would involve certifying compliance with various federal mandates (e.g., NEPA, ESA, etc.) and providing fiscal accountability.

We would caution against efforts to expand the Bureau's mission into actual project design and construction activities. This is because the NRC report clearly demonstrates that there already exists a substantial level of effort that must be initiated by the Bureau to address decaying infrastructure. This fact, coupled with the importance of providing security at facilities, makes for a full agenda over the next several years.

What is needed in many cases is a full partnership between the Bureau and its stakeholders that acknowledges the strengths of each. For example, the issue of overhead costs has been mentioned as a key concern. I would suggest to the Subcommittee that on the research side of the ledger, we have worked exceedingly well with Bureau staff to implement an aggressive program of research that has managed to limit overhead costs. This is the direct result of allowing each party to provide input relative to its strengths and expertise. In the Bureau's case, it is managing the federal contract, ensuring fiscal accountability, and providing technical representation on the project advisory committees for each project. For the WateReuse Foundation, it is managing the actual research.

We wish to commend the Department of the Interior (DOI) for commissioning the NRC report. Sponsorship of the report indicates that the leadership of DOI recognizes the need for a new management model that will allow the Bureau to meet the water and power challenges of the 21st century and, in doing so, be responsive to the needs of customers, stakeholders, and end users.

Managing for Excellence

The Subcommittee also requested that we provide comments on the Bureau's *Managing for Excellence* report, which addresses all of the findings and recommendations contained in the NRC report. In general, we find the Bureau's report to be well written, focused, and on target. While the Bureau has done an excellent job of classifying and characterizing its need for change, the challenge will be in implementation. While the Bureau, in essence, "reinvents itself," it must continue to strive to fulfill its mission. Thus, the organizational, management, and cultural changes that must take place while remaining fully functional will be tantamount to "rebuilding a ship while at sea."

Again, the WaterReuse Association thanks you, Mr. Chairman and members of the Subcommittee, for convening this hearing on the NRC report. We would be pleased to work with you in addressing the critical management challenges facing the Bureau of Reclamation. The WaterReuse Foundation views its partnership with the Bureau of Reclamation as a significant opportunity to address the water resource problems facing the West. We strongly support the Subcommittee's leadership efforts to ensure adequate and safe water supplies for the entire country in the 21st century.